

THE CLAIMED INVENTION IS:

1. A method for supplementing a flow of blood to a portion of the cardiovascular system of a patient, the method comprising:
- 5 (a) inserting a catheter device into the vasculature of the patient and advancing the catheter device to a first location within a first coronary vessel within the cardiovascular system;
- (b) guiding the catheter device through an interstitial passageway formed between the first location and a second location within a second
10 coronary vessel within the cardiovascular system; the second location within the second coronary vessel being distal to an obstruction in the second coronary vessel;
- (c) forming a blood flow path from a heart chamber directly to the second coronary vessel; and
- 15 (d) occluding the interstitial passageway between the first coronary vessel and the second coronary vessel to prevent blood flow through the interstitial passageway.
2. The method according to claim 1, wherein forming a blood flow path from
20 the heart chamber directly to the second coronary vessel includes placing a conduit in a heart wall between the heart chamber and the second coronary vessel.
3. The method according to claim 2, wherein placing a conduit in a heart wall between the heart chamber and the second coronary vessel includes placing a
25 conduit in a septal passageway extending into the heart wall between the heart chamber and the second coronary vessel.
4. The method according to claim 1, wherein the interstitial passageway is
30 formed through a wall of the first coronary vessel and through a wall of the second coronary vessel between the first and second locations.

5. The method according to claim 4, wherein occluding the interstitial passageway includes deploying an embolization substance at the wall of the first vessel and at the wall of the second vessel.
- 5 6. The method according to claim 1, wherein occluding the interstitial passageway includes deploying an embolization device within the interstitial passageway.
7. The method according to claim 1, wherein the second coronary vessel is a
10 coronary artery.
8. The method according to claim 7, wherein the coronary artery is a left anterior descending coronary artery.
- 15 9. The method according to claim 7, wherein the first coronary vessel is a coronary vein proximate to the coronary artery.
10. The method according to claim 9, wherein the first coronary vessel is a great cardiac vein.
20
11. A method for supplementing a flow of blood to a portion of the cardiovascular system of a patient, the method comprising:
- 25 (a) inserting a catheter device into the vasculature of the patient and advancing the catheter device to a first location within a first coronary vessel within the cardiovascular system;
- (b) guiding the catheter device through a first interstitial passageway formed between the first location and a second location within a second coronary vessel within the cardiovascular system;
- 30 (c) advancing the catheter device to a third location within the second coronary vessel;

- (d) guiding the catheter device through a second interstitial passageway formed between the third location and a fourth location within the first coronary vessel; the fourth location being distal to an obstruction in the first coronary vessel;
- 5 (e) forming a blood flow path from a heart chamber directly to the first coronary vessel; and
- (f) occluding the first and second interstitial passageways between the first coronary vessel and the second coronary vessel to prevent blood flow through either of the first or second passageways.

10

12. The method according to claim 11, wherein forming a blood flow path from the heart chamber directly to the first coronary vessel includes placing a conduit in a heart wall between the heart chamber and the first coronary vessel.

- 15 13. The method according to claim 12, wherein placing a conduit in a heart wall between the heart chamber and the first coronary vessel includes placing a conduit in a septal passageway extending into the heart wall between the heart chamber and the first coronary vessel.

- 20 14. The method according to claim 11, wherein:
 - (a) the first interstitial passageway is formed through a wall of the first coronary vessel and through a wall of the second coronary vessel between the first and second locations; and
 - (b) the second interstitial passageway is formed through a wall of the
- 25 the second coronary vessel and through a wall of the first coronary vessel between the third and fourth locations.

15. The method according to claim 14, wherein occluding the first and second interstitial passageways includes:

- (a) deploying an embolization substance at the wall of the first coronary vessel and at the wall of the second coronary vessel at the first interstitial passageway; and
- (b) deploying an embolization substance at the wall of the first coronary vessel and at the wall of the second coronary vessel at the second interstitial passageway.

16 The method according to claim 11, wherein occluding the first and second interstitial passageways includes deploying an embolization device within each of the first and second passageways.

17 The method according to claim 11, wherein the first coronary vessel is a coronary artery.

18 The method according to claim 17, wherein the coronary artery is a left anterior descending coronary artery.

19. The method according to claim 17, wherein the second coronary vessel is a coronary vein proximate to the coronary artery.

20. The method according to claim 19, wherein the first coronary vessel is a great cardiac vein.

21. A method for supplementing a flow of blood to a portion of the cardiovascular system of a patient, the method comprising:

- (a) inserting a catheter device into the vasculature of the patient and advancing the catheter device to a first location within a coronary vessel within the cardiovascular system; the first location being proximate to an obstruction within the coronary vessel;
- (b) advancing the catheter device through the obstruction to a second position distal to the obstruction;

- (c) guiding the catheter device through an interstitial passageway extending into a heart wall between a heart chamber and the coronary vessel; and
- (d) placing a conduit in the interstitial passageway extending into the heart wall between the heart chamber and the coronary vessel.

22. The method according to claim 21 further comprising distending the obstruction within the coronary vessel.

23. The method according to claim 22, wherein distending the obstruction within the coronary vessel includes inflating a balloon at the obstruction within the coronary vessel.

24. The method according to claim 21, wherein the interstitial passageway includes a septal passageway extending into the heart wall between the heart chamber and the coronary vessel.

25. The method according to claim 21, wherein the coronary vessel is a coronary artery.